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February 1, 2007

#### DISCUSSION MEMORANDUM

**TO:** Council Members

**FROM:** Peter Paquet, Manager Wildlife and Resident Fish

**SUBJECT:** Demonstration of Northwest Environmental Data-Network Portal

#### **PURPOSE**

The purpose of this demonstration is to familiarize the Council with data portal, an internet based tool, which was developed through the Northwest Environmental Data-Network.

#### **BACKGROUND**

The Northwest Environmental Data-Network (NED) is a collaborative effort led by the Northwest Power and Conservation Council (NPCC) and NOAA Fisheries Northwest Regional Office and Fisheries Science Center. The NED Portal meets regional data discovery and sharing needs identified by Scientific Applications International Corporation (SAIC) in their regional data needs assessment. The software chosen for the Portal meets all of SAIC's recommended specifications. The Portal supports and leverages other national, regional, state, and local efforts, including the International Organization for Standardization (ISO), Federal Geographic Data Committee (FGDC), Geospatial One-Stop (GOS), National Spatial Data Infrastructure (NSDI), E-Government initiatives, and state Portal development. The NED Portal integrates existing distributed resources from a wide array of entities, compiling lots of disparate data in one place. Just as there is a hierarchy of data (from national, to regional, to state-level), there are partnership arrangements that must be developed to ensure that the Portals work together.

The NED Portal is an easy to use Internet tool that can:

- Search for data based on user defined geographic boundaries, key words, or full text (like Google).
- Make custom maps by overlaying many different maps from a variety of sources.

503-222-5161 800-452-5161 Fax: 503-820-2370

- Discover and download tables of data related to your search (e.g. in Excel).
- Automatically harvest data from other locations.
- Organize information in indexes and inventories so that you can easily find it.
- Accept your existing metadata or use the template to enter it on-line.
- Print, save or email copies of the data or maps that you create or find.
- Allow others to find and use your information.

Why was the Portal Created? An independent regional study in 2003 (SAIC Report) found that many regional researchers, scientists, managers and members of the public can not easily locate the data needed to stay informed and make decisions. The study recommended the creation of a Regional Data Portal based on National and International standards.

Who Manages the Portal? The Northwest Environmental Data Network (NED), a group of Federal, State, Tribal and Non-Governmental entities is responsible for managing the Portal and the pilot installation. The Portal will continue to develop during 2007 and will be continually updated as new data sets become available.

Day to day management of the Portal will be provided by Channel Stewards who will help to organize the content of Portal Channels (for example for Endangered Salmonid data), promote Portal use, assist those wishing to publish to the Portal, and ensure that published information meets Portal standards.

Who Can Use the Portal? Anyone who has access to the Internet can get information from the Portal and any information published to the Internet through a standard format can be harvested by the Portal. Anyone wanting to publish their metadata can create a new account.

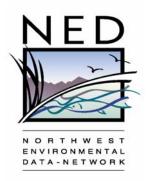
What Technology Makes the Portal Work? It is based on off-the-shelf technology, the Portal Toolkit from ESRI. This technology is also used by the National Geodata.gov Portal. The NED Portal will provide data to the National Portal. The benefit of a regional portal is twofold: the region can decide what data is important to it and focus on developing data resources that are not necessarily of national interest, and regional Channel Stewards can help to refine data quality to meet regional requirements, a necessary service that National Portals do not provide.

c:\documents and settings\paquet\desktop\ned portal demo 07.doc (Peter Paquet)

503-222-5161

800-452-5161

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# Finding, Sharing and Using Distributed Data -Northwest Environmental Data-Network Portal Development

NW Power and Conservation Council February 13, 2007

#### **Background**

There is agreement that we all need a better way to find and use fish, wildlife, and water data. NED is a collaborative effort led by the Northwest Power and Conservation Council and NOAA Fisheries. The NED Portal has been deployed at a pilot level to support regional data discovery and sharing needs identified by Scientific Applications International Corporation in their regional data needs assessment. The Portal supports and leverages other national, regional, state, and local efforts by integrating existing distributed resources in one place.

#### What the Portal is and what it can do [http://nppc.bpa.gov/Portal]

- > Discover distributed data (i.e., from different web sites) by doing searches based on geographic boundaries, key words, or a known location picked from a standard list. The search is performed on the metadata records attached to each data set. Metadata is analogous to the card catalog at the library which describes the holdings.
- > Share data (tabular or spatial) by posting its metadata to the Internet in industry standard format.
- Look at the data, in spatial (or map) form.
- > Overlay different data sets in map form.
- > Print, save and recover, or email a copy of data or a map you create.
- > Discover and download tabular data for local use.
- > Index and organize tabular data, spatial data, and other electronic products such as publications.
- Provide a current inventory of all data published in the standard format.

#### Features of the NED Portal

- > Cost effective. Builds upon and ties together comparable national and state-level efforts.
- > Metadata records can be uploaded, automatically harvested, or input via the Portal's template.
- > Compliant with National and International standards, including those of the ISO, NSDI and FGDC.
- > Based on off-the-shelf technology, ESRI's Portal Toolkit. This also runs the nation's Portal at http://www.geodata.gov
- Meets regional needs for access to Pacific Northwest natural resource policy, planning, and management data.
- > A single source for locating and discovering data.

#### What it will take for the Portal to Succeed

- Identifying a Portal Administrator and Channel Steward. The Administrator will make sure that the Portal continues to run. The Steward will work with data providers to get data posted to the system that complies with agreed standards for metadata and has certified data quality.
- Posting of data. Agencies and entities completing work must post their metadata to the Internet before the Portal can find it. Data can also be posted for easy access. A web map service (or other standard webaccessible service) allows easy overlay of these data.
- > Agencies or entities that cannot post data may need help posting (and/or hosting) their metadata and/or actual data sets.

#### What it is likely to cost to populate and maintain the Portal

- > Infrastructure and staff. A Portal Administrator and Channel Steward are needed in a full time capacity. Depending on the amount of use, more data content stewards could be needed for specific subjects.
- Fiscal Year 2007 budget needs will continue to be developed by the NED Steering Committee and covered under the Council's Fish and Wildlife Program. Out year budget is proposed to be included in a new BPA/Council Regional Data Management Planning and Coordination item. This is consistent with Independent Scientific Review Panel guidance to make scientifically credible data available for fish and wildlife planning and management activities.

#### Policy Commitment

The system will work if metadata are posted to the Portal, raw data are available on the Internet, and the quality of the data is assured. Regional Executives will be asked to support the common use of basic standards and protocols for data quality and metadata across their regional programs. Similar requirements are already in place for many agencies, and need to be implemented throughout the region.

#### Conclusion

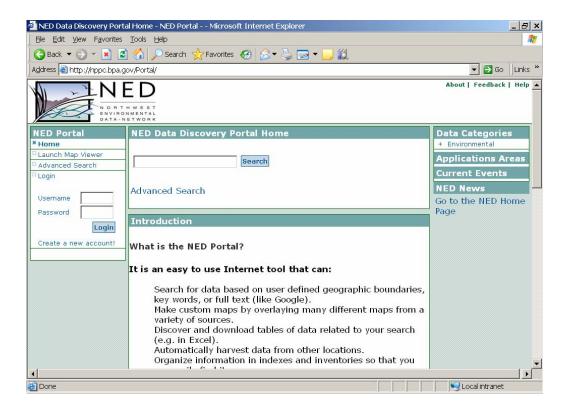
The Portal is a technology evolution, not a revolution. It can make regional data sets discoverable and available in their native formats once their metadata is posted. The Portal will allow anyone to discover and use the data that are available to help solve natural resource problems. There is an opportunity to tap into national assistance at Geospatial One-Stop to further develop both the technology and people partnerships that will be necessary for NED to succeed. The Portal supports an adaptive management approach to regional information system development.

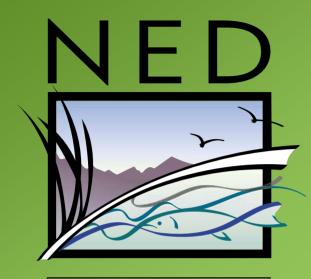
Tom Pansky, Energy Resource Specialist, Bonneville Power Administration Portland, Oregon, tepansky@bpa.gov, 503.230.3969

NED Technology for Data Discovery and Sharing Work Group

http://www.nwcouncil.org/ned

http://nppc.bpa.gov/Portal



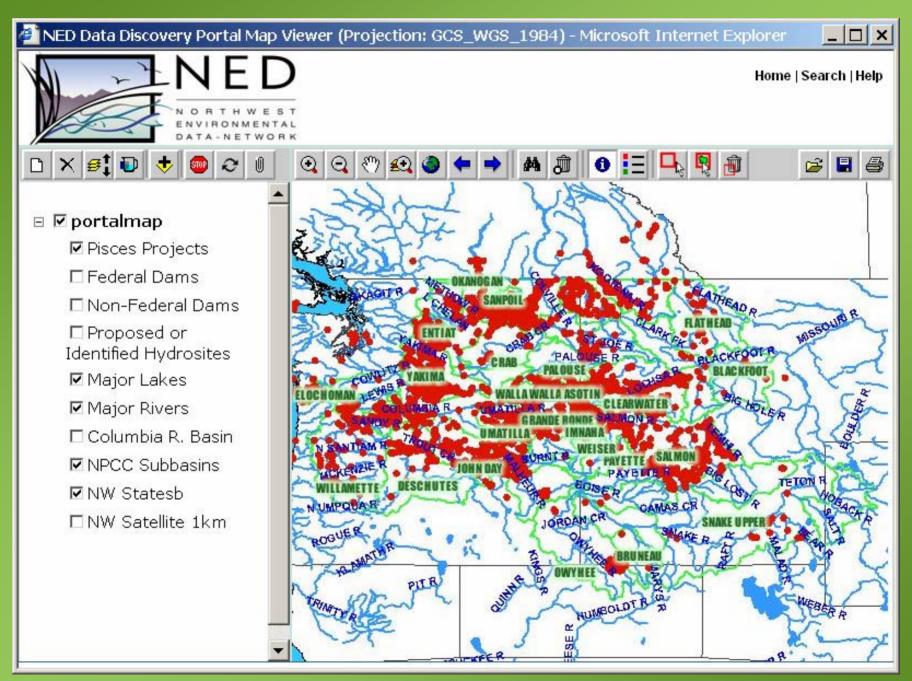


## **Portal Demonstration**

N O R T H W E S T ENVIRONMENTAL DATA-NETWORK February 13 2007
Northwest Power and
Conservation Council

Tom Pansky, Energy Resource Specialist, BPA

NED Technology for Data Discovery and Sharing Work Group





### Metadata Portal MAP VIEWER

#### IDENTIFY

#### Select a layer and click on the map.

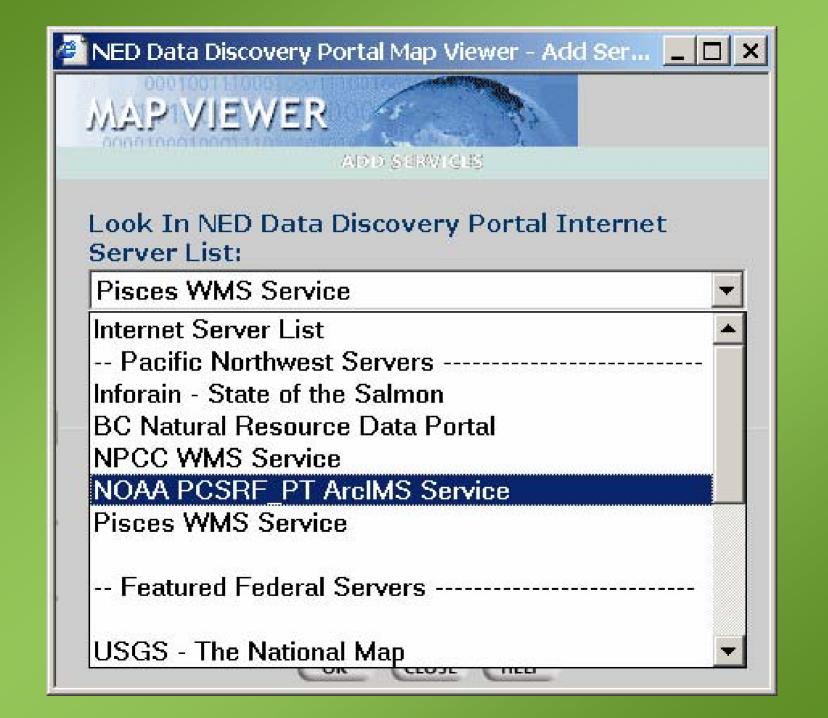
Layers:

Pisces Projects 🔻

## **Pisces Projects**Sarah Branum

Sarah Branum

Location: X-	v. 44.3803	-
FIELD	VALUE	
PROJECTNUMBER	1988-053-08	
PROJECTTITLE	Hood R	
	Powerdale/Oak	
	Springs	
PROJECTMANAGERNAME	Sarah Branum	
SPONSORNAME	Oregon	
	Department Of	
	Fish and Wildlife	
	(ODFW)	
WORKSTATEMENTELEMENTID	15744	
WORKELEMENTID	158	
WORKSTATEMENTELEMENTSITEID	12890	
WORKELEMENTNAME	Mark/Tag	
	Animals	
WORKELEMENTTITLE	Fin clip & CWT	
	all smolts	
LOCATIONDESCRIPTION	Round Butte	
	Hatchery	
LATITUDE	44.3621	
LONGITUDE	-121.1633	
WEENDDATE	8/15/2007	
	12:00:00 AM	
WECOMPLETIONDATE		
ID_NAME	1988-053-08	
OBJECTID	9379	
AREA	0	
I FA I		





# MAP VIEWER



ADD SHRVICES

Select service(s) to add. Press Shift or Ctrl to select multiple services.

Crit Geoviewer

PCSRF

PCSRF Loc

#### PCSRF PT

PNSHP

PNSHP Loc

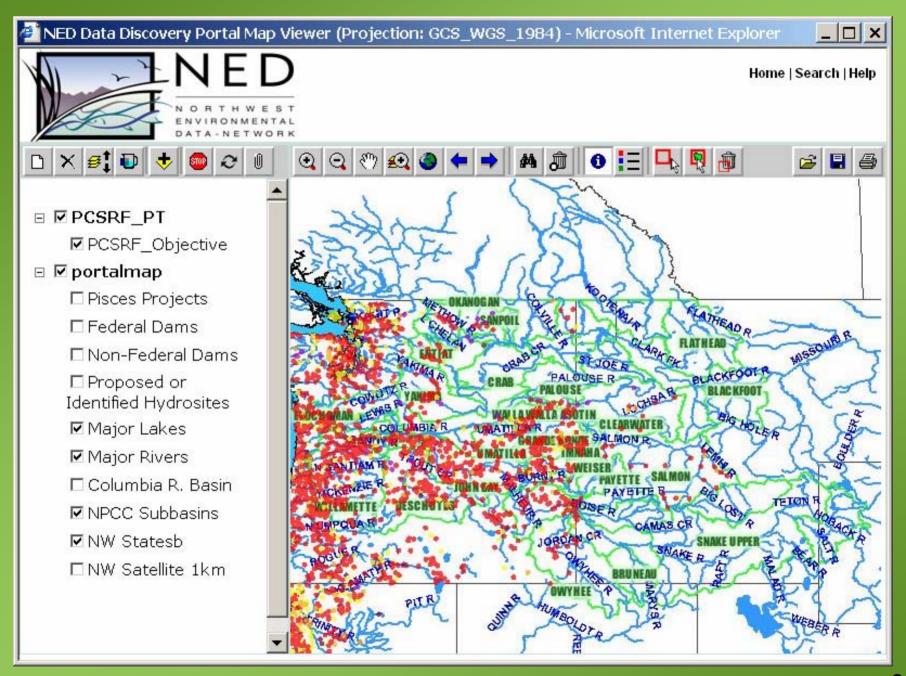
SERIES

SERIES Loc

Wenatchee

BACK ADD

CLOSE







### Metadata Portal MAP VIEWER

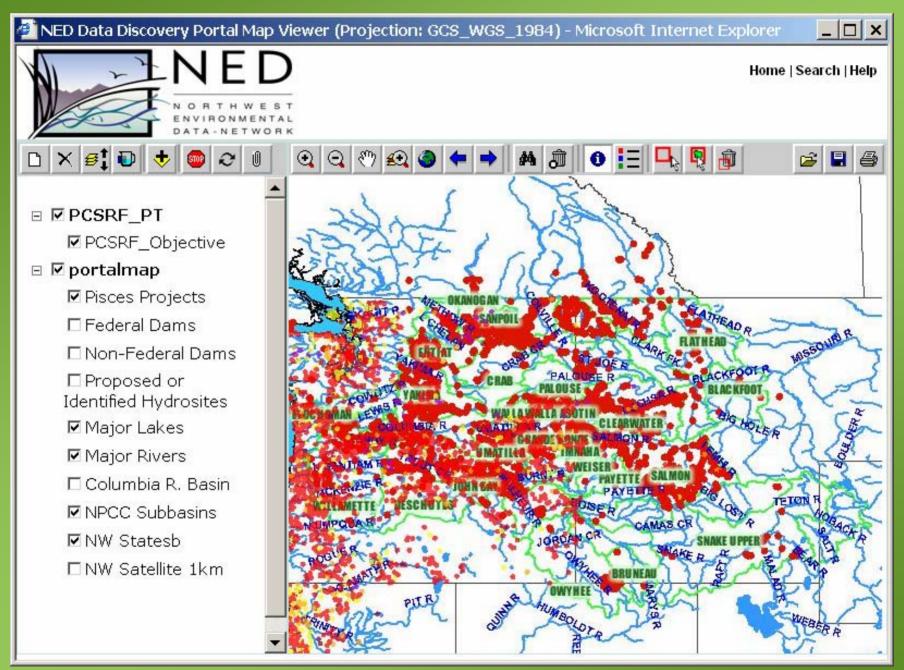
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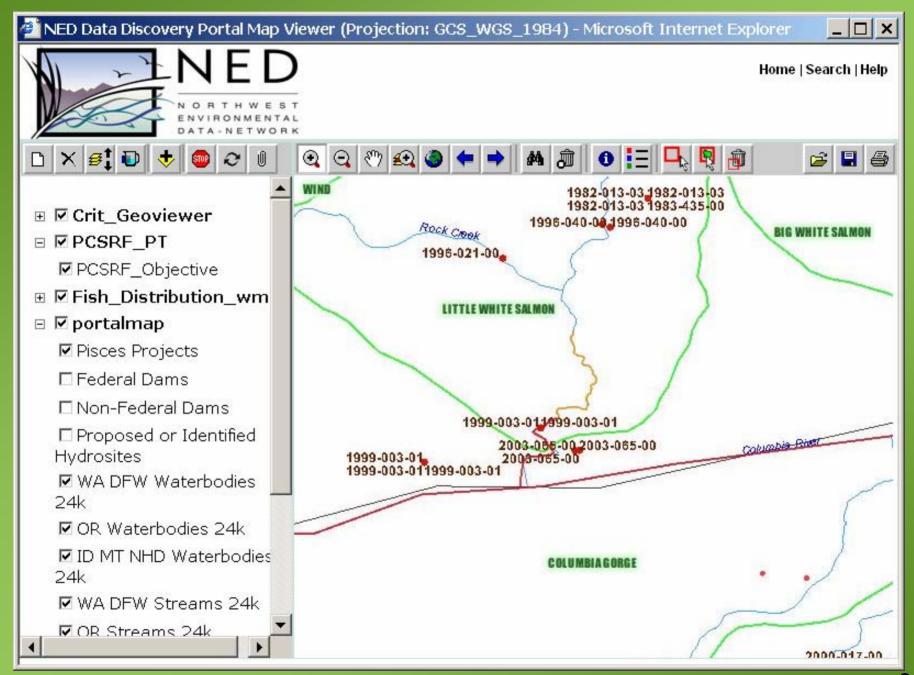
PCSRF\_Objective 🔻 Layers:

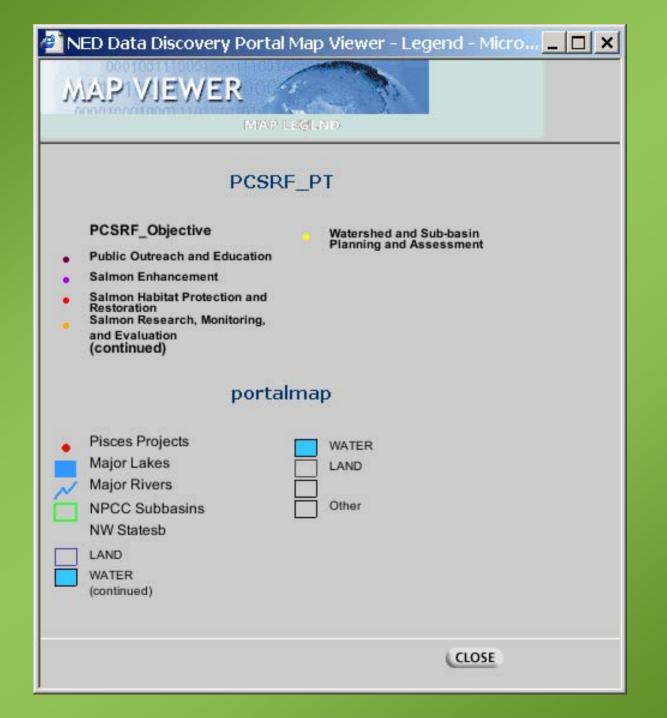
PCSRF\_Objective Upper Deschutes Watershed Stream Bank Stabilization

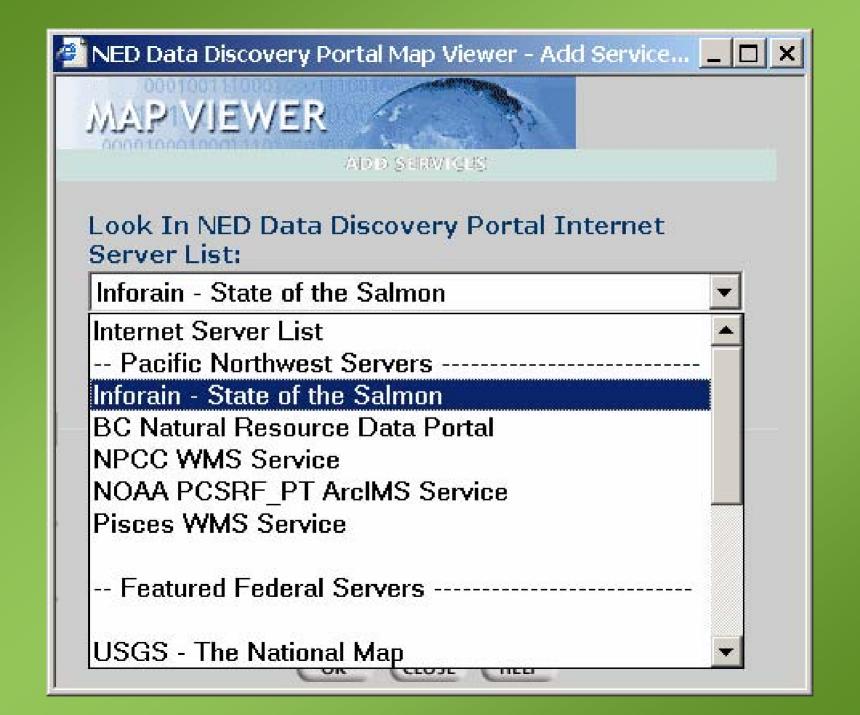
_Location: X -	v. 44.0691	
FIELD	VALUE	
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AGENCY	OWEB	
DATABASEWS	20001193	
PCSRF_OBJECTIVE	Salmon Habitat Protection and Restoration	
PCSRF_FUND	17667	
PROJECT_NAME	Upper Deschutes Watershed Stream Bank Stabilization	
PCSRF_YEAR	2000	
LOCATIONTYPE	LLID Point Event	
ANALYSIS_SCALE	6th Field HUC	
OBJECTID	2035	
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LEN	0	

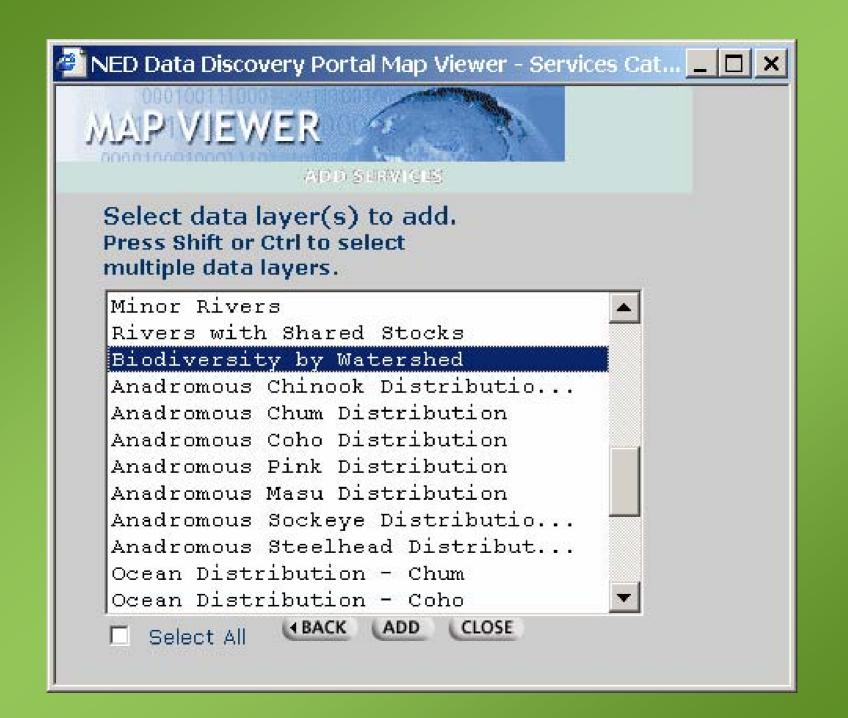
CLOSE HELP

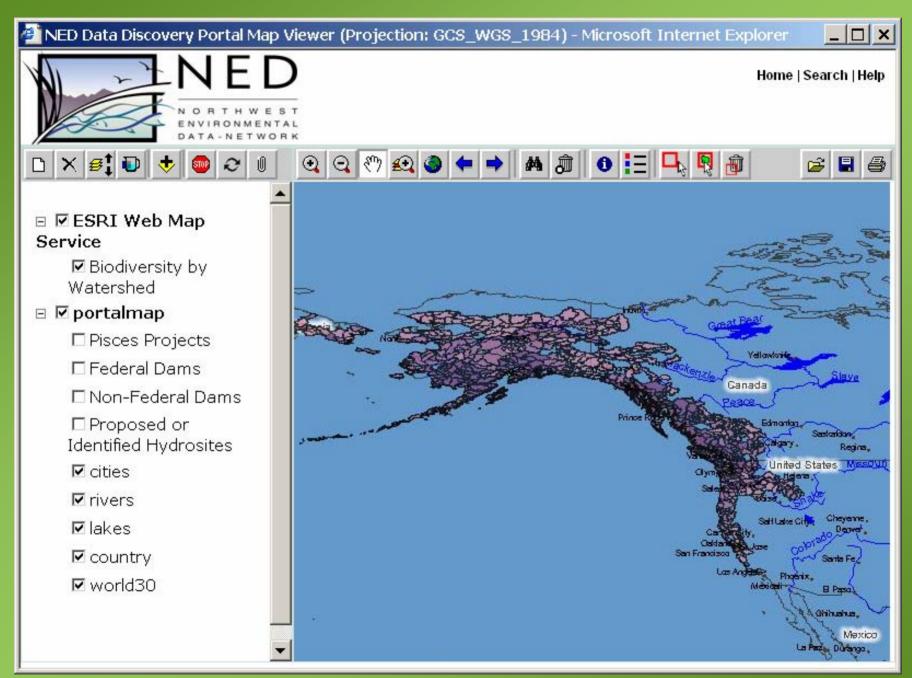


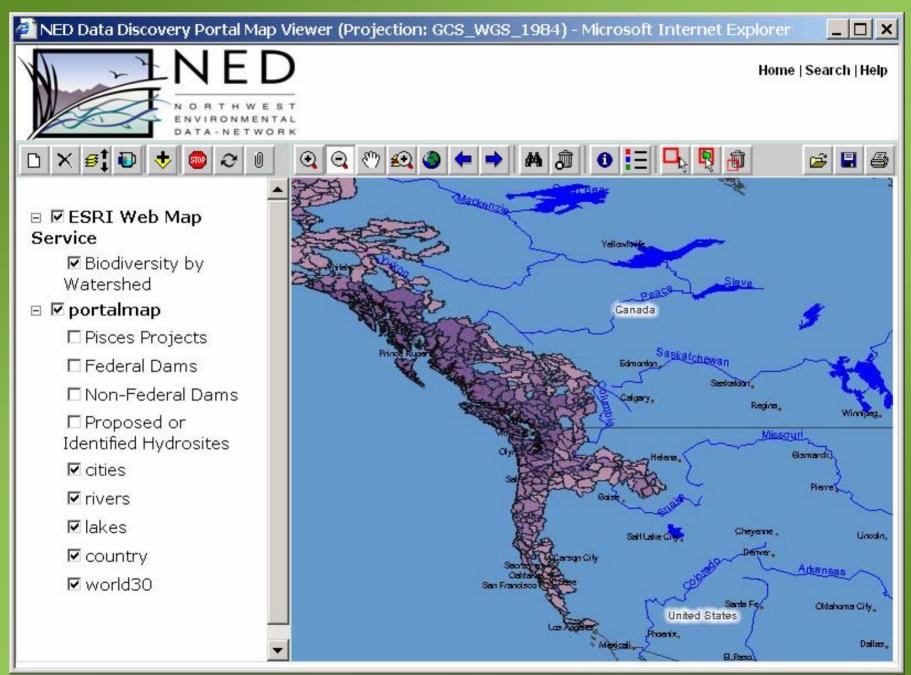


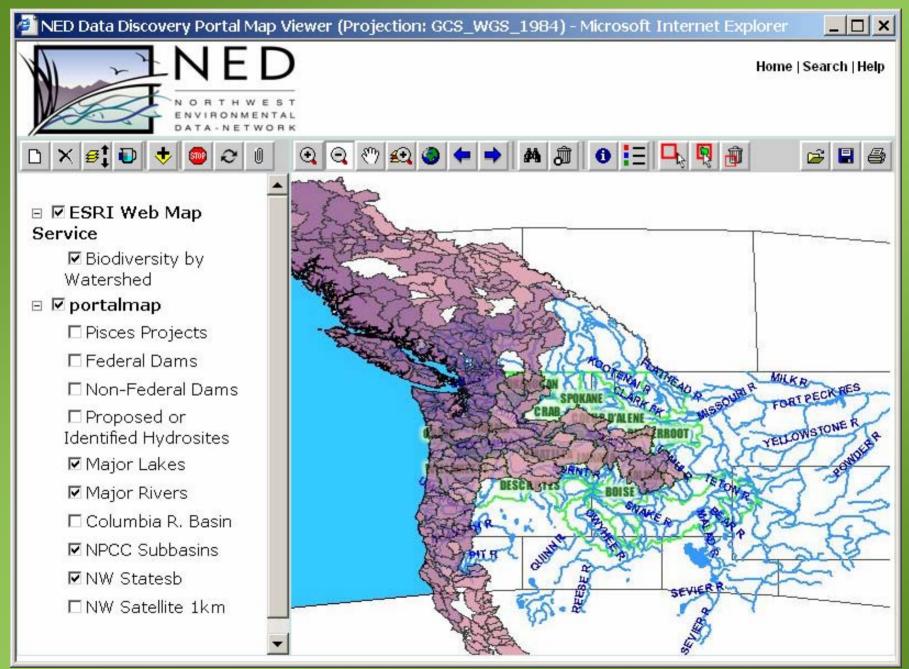


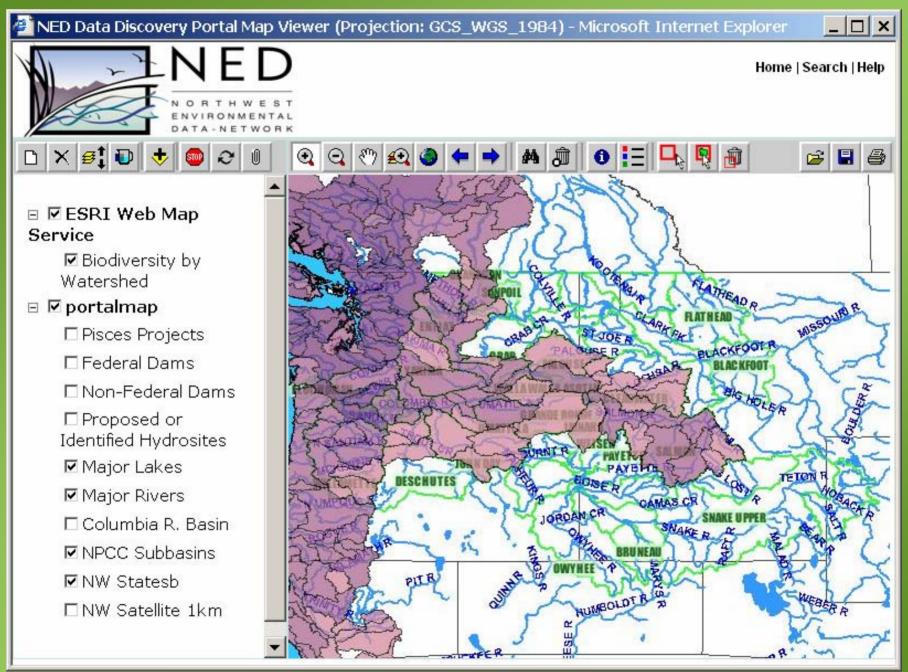


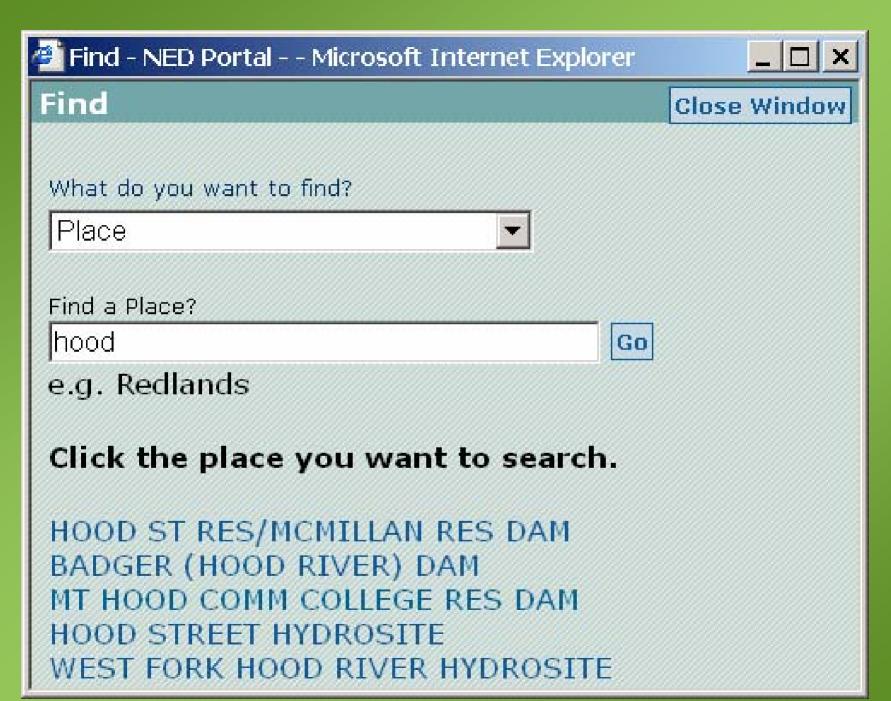


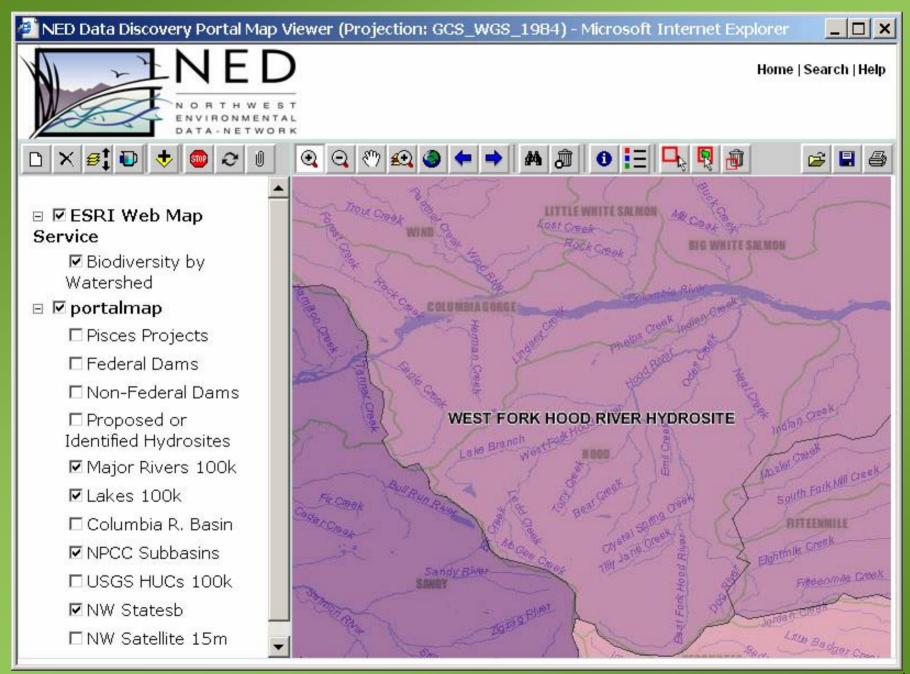


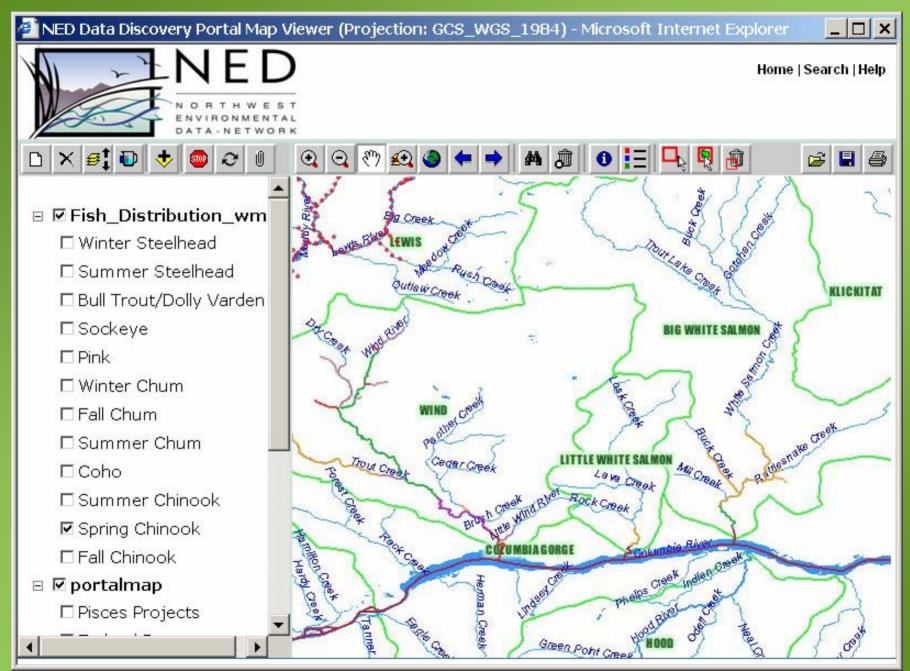




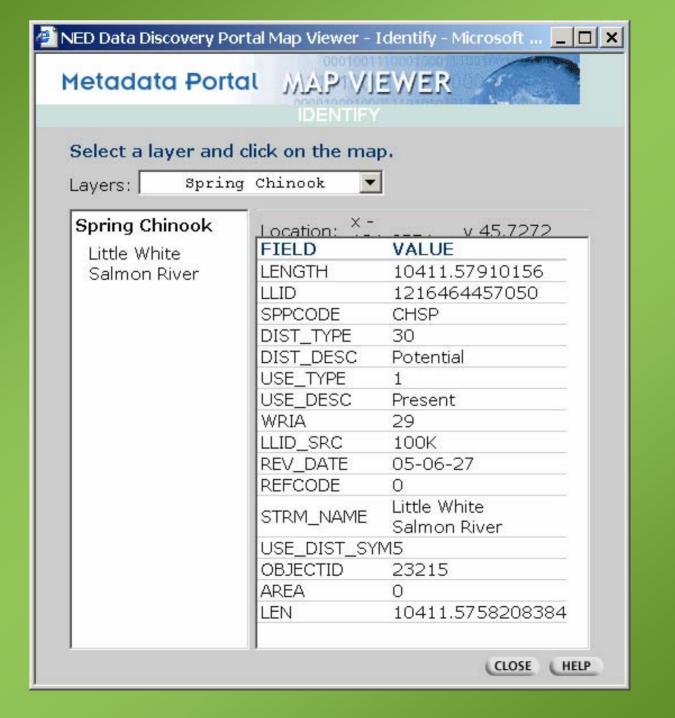


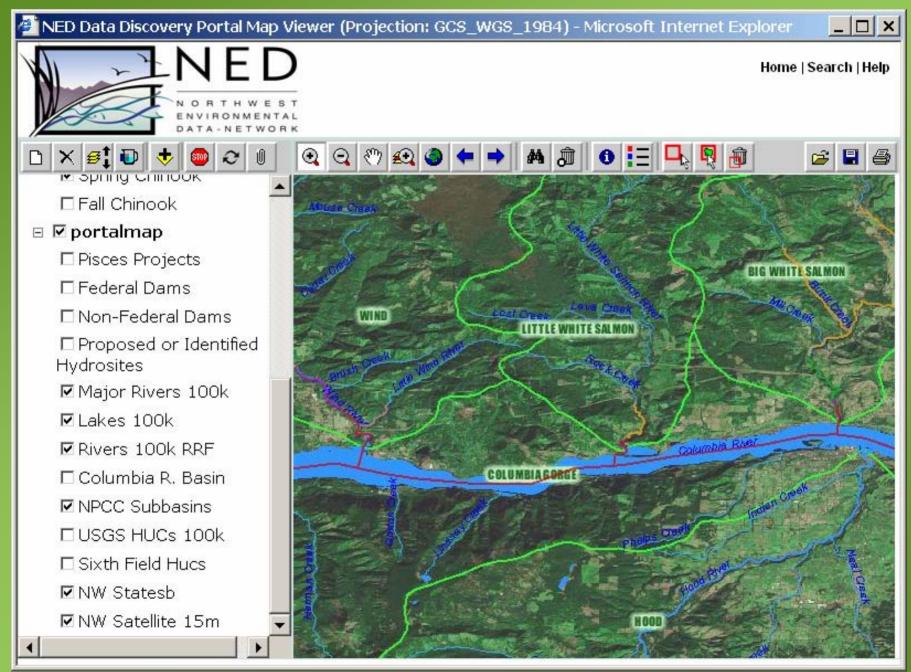


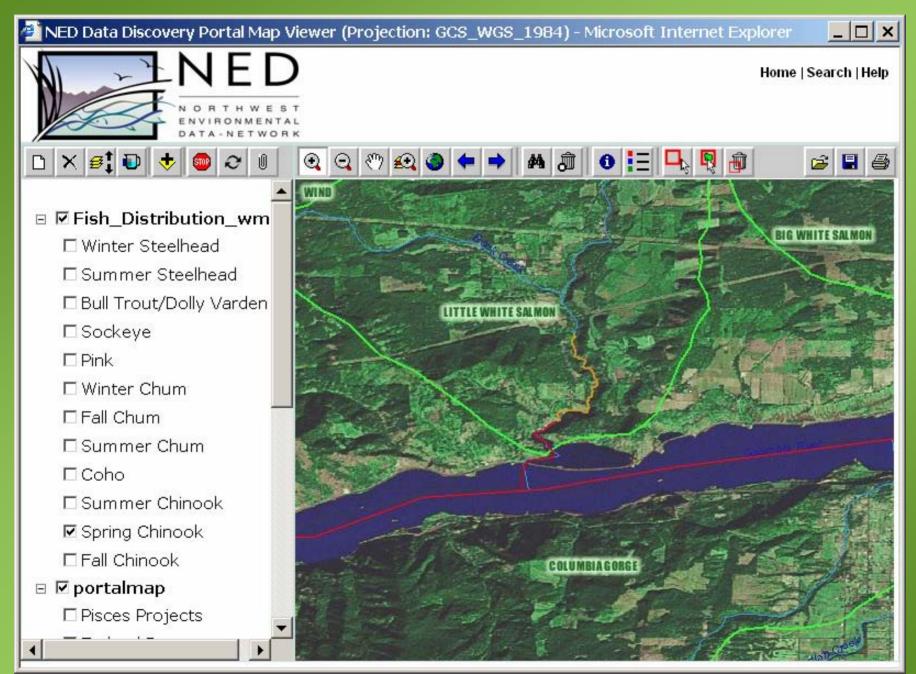


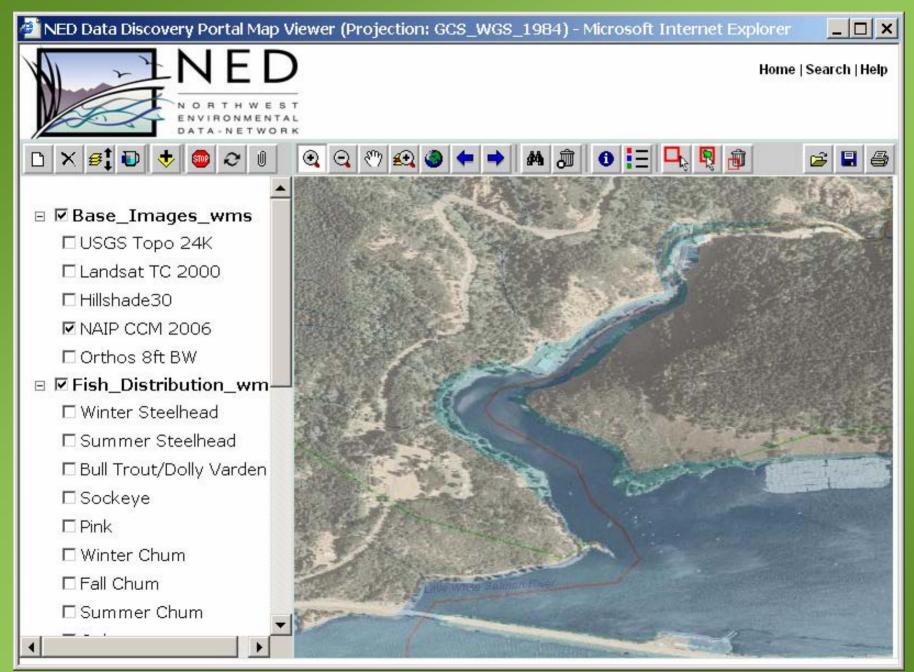


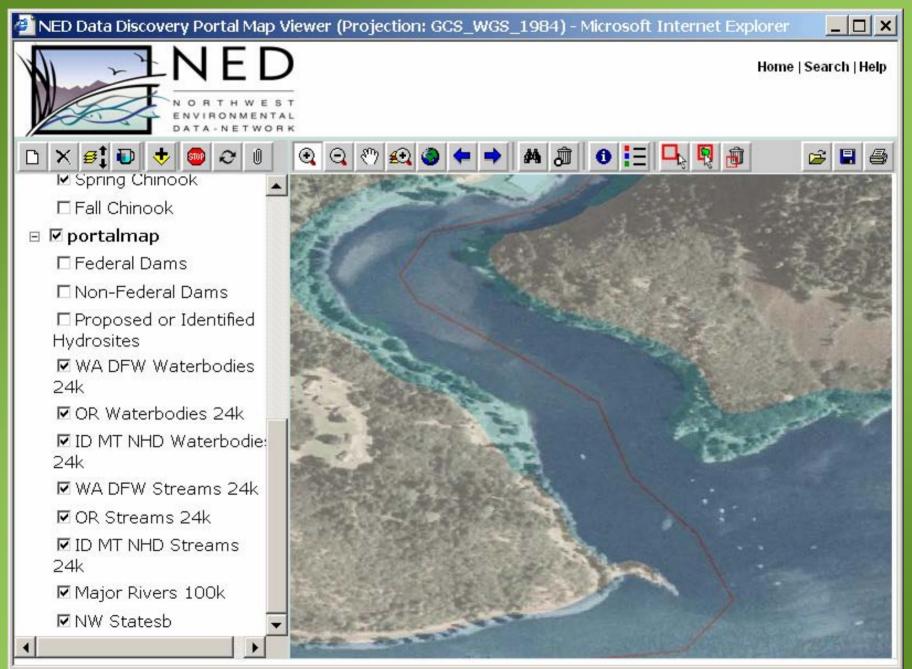


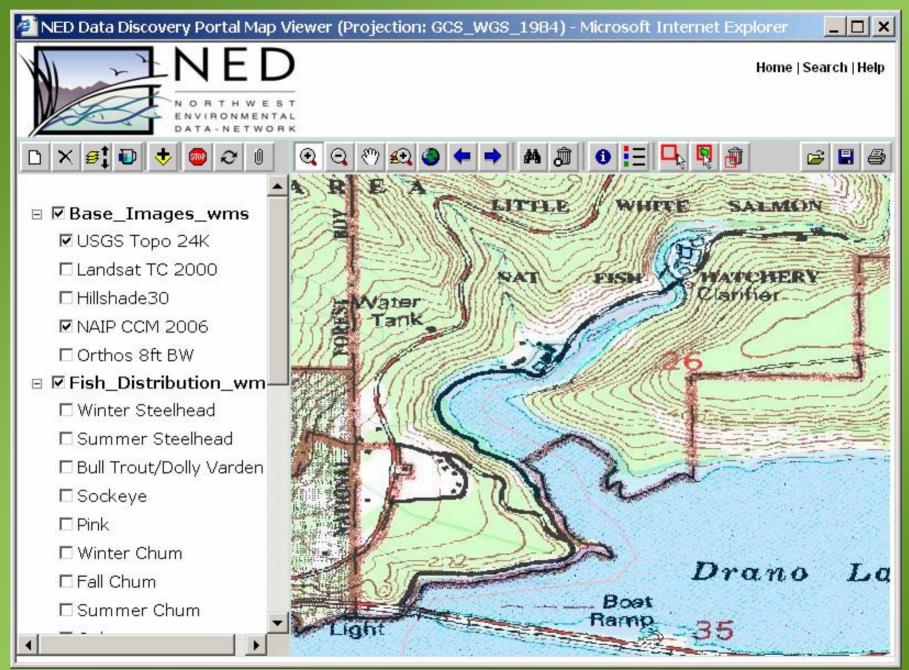


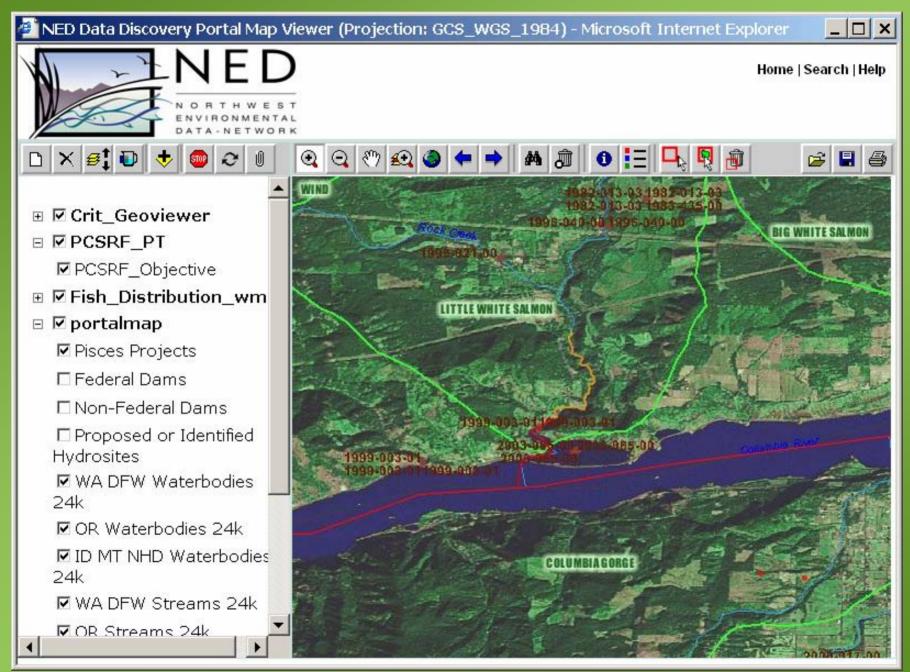


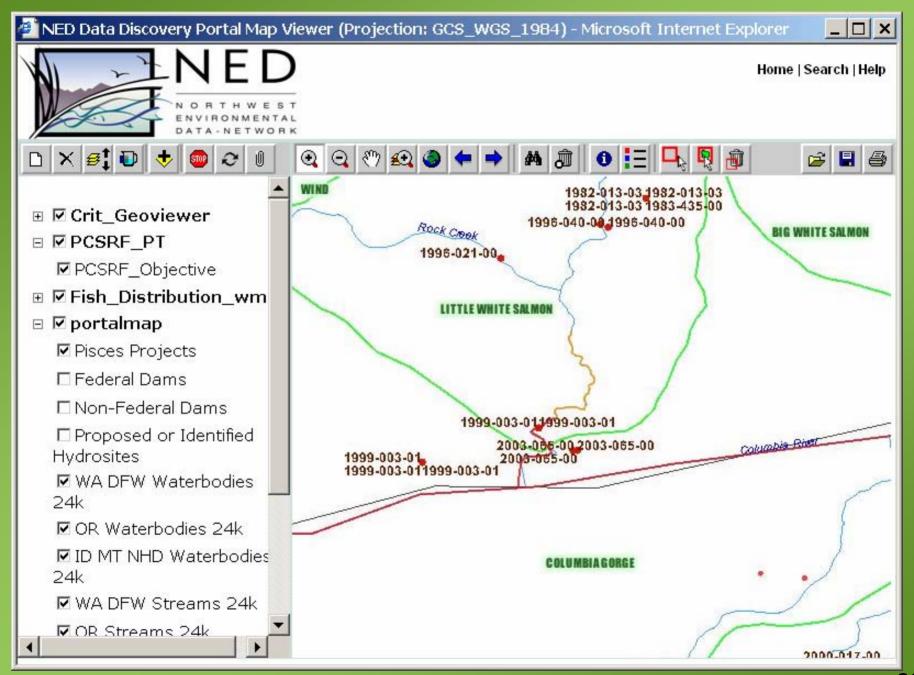


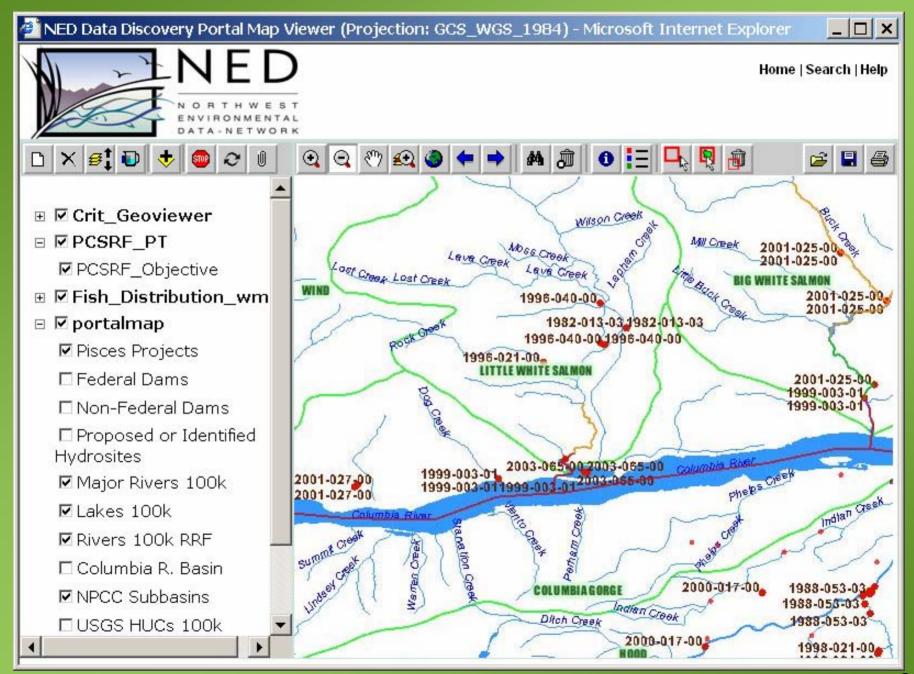


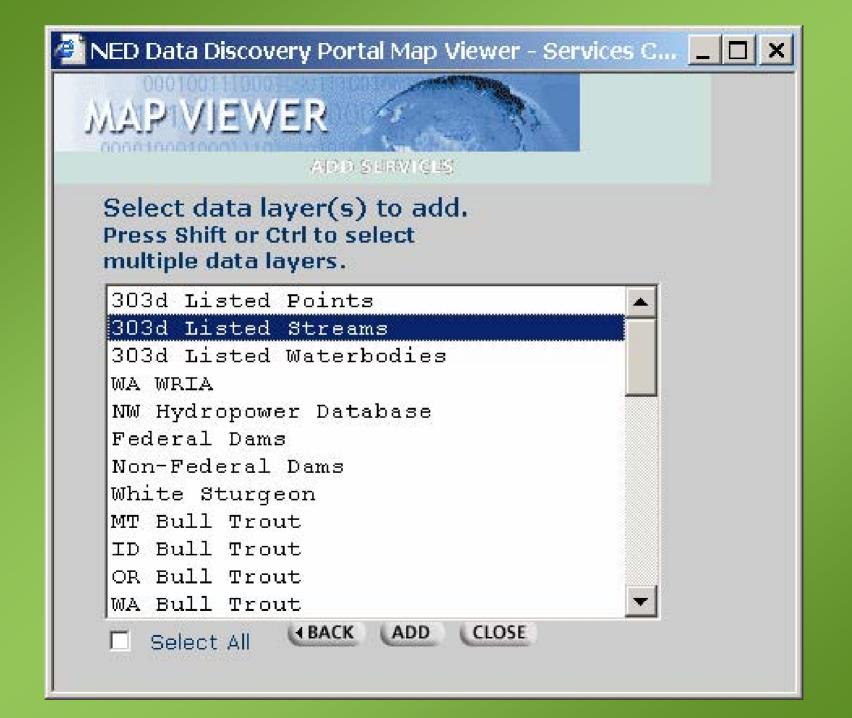


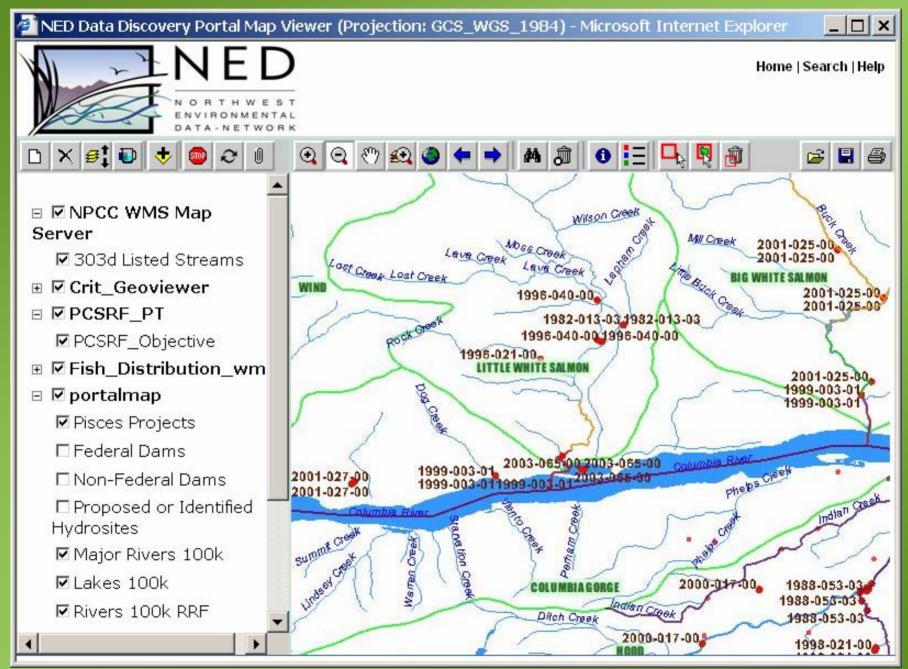


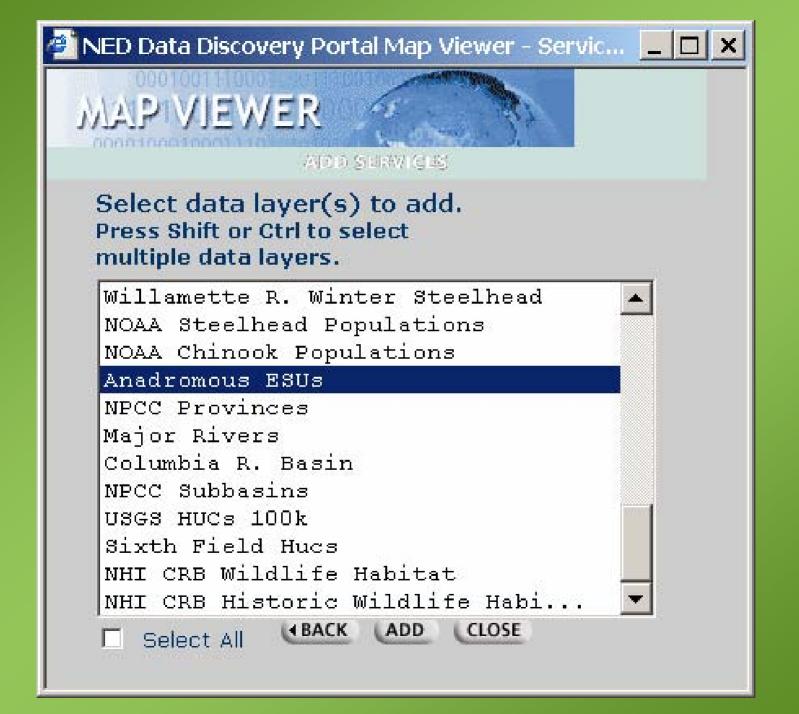


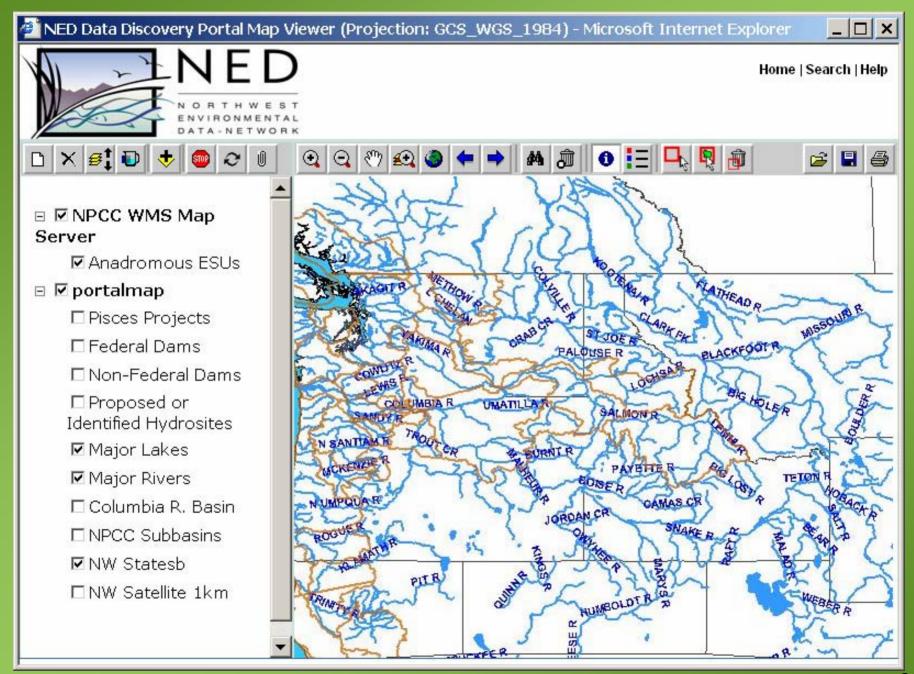


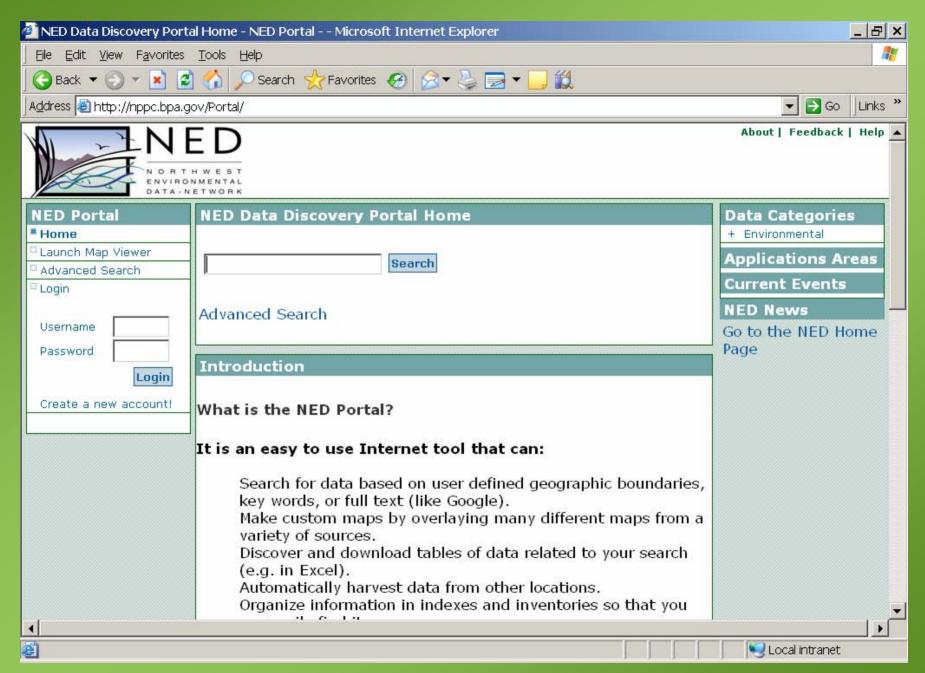


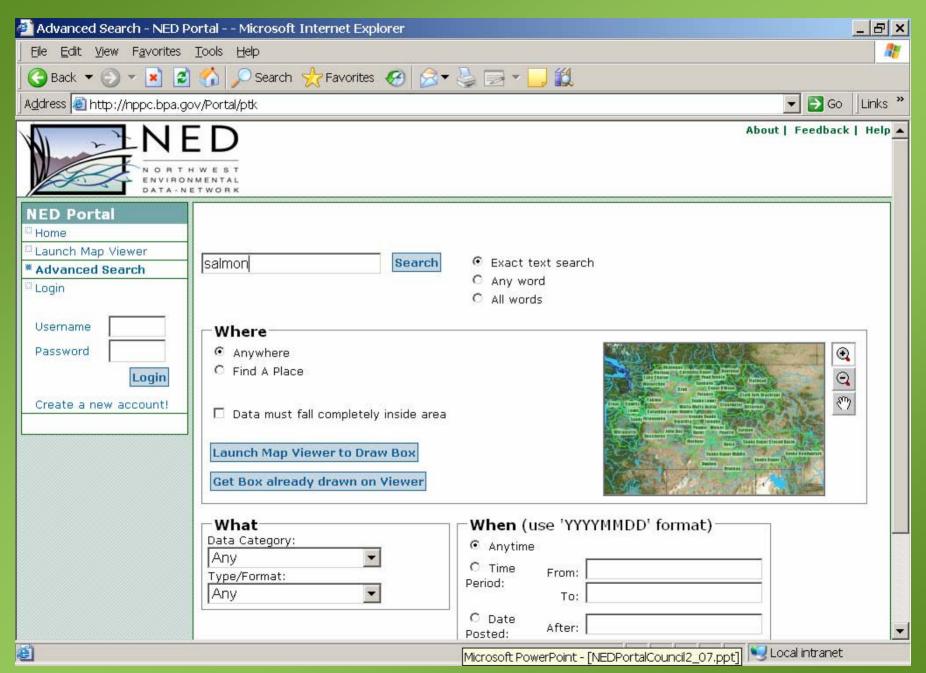


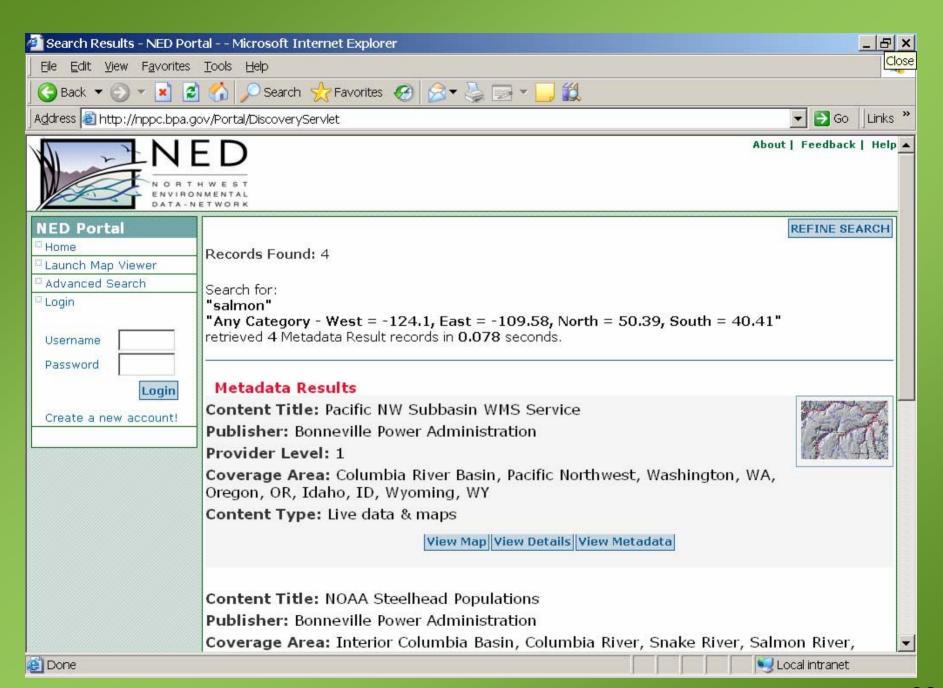


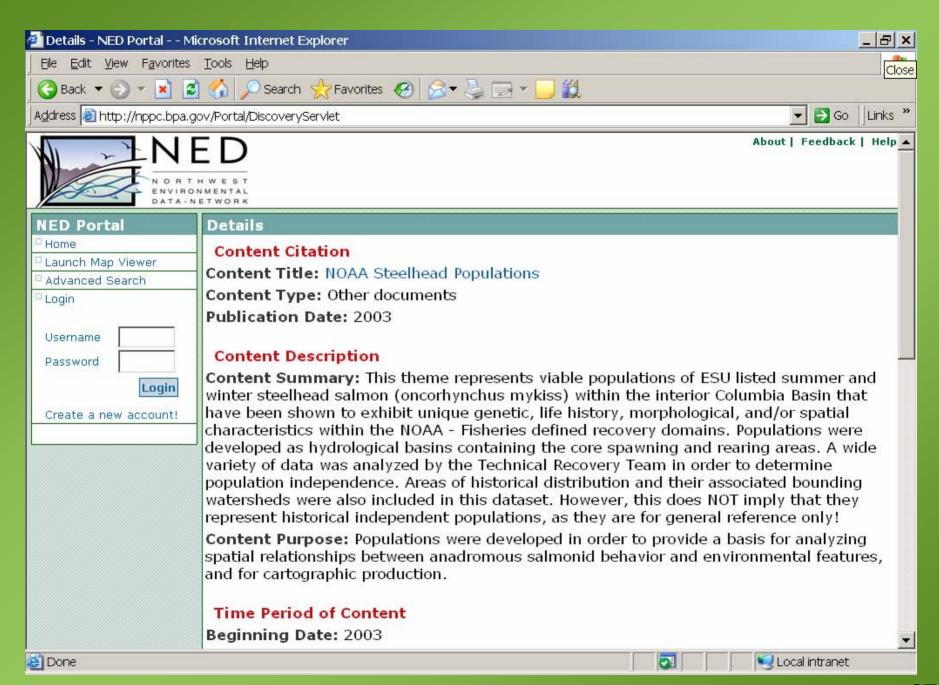














### What the Portal is and what it can do

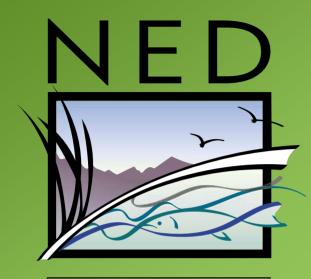
nppc.bpa.gov/Portal

- Bring in data from different web sites
- Overlay that data to make new maps
- See a current inventory of all data
- You can print, save, or email any of the maps you create or data that you find



### Features of the NED Portal

- Cost effective -- builds upon and ties together comparable national and state-level efforts
- Meets National and International standards
- Uses off-the-shelf tool -- ESRI's Portal Toolkit -which runs the nation's Portal at: www.geodata.gov
- Focused on Pacific Northwest natural resource issues
- One place to find all the data you are looking for



## **Portal Demonstration**

N O R T H W E S T ENVIRONMENTAL DATA-NETWORK February 13 2007
Northwest Power and
Conservation Council

Tom Pansky, Energy Resource Specialist, BPA

NED Technology for Data Discovery and Sharing Work Group

#### N E D Data Discovery Portal





## Background

- Meets regional fish, wildlife, and water data discovery and sharing needs identified by SAIC, NED, and the Columbia Basin Data Center proposal
- There is regional and national support for developing improved data sharing and discovery tools
- Allows for integration of other similar national, regional, state, and local efforts into a federated system



## Progress

- Fall 2004 Product research; NED Steering
   Committee review and software selection
- 2005 Develop BPA Business Case; secure system development approvals; prep systems for install
- 2006 Portal Toolkit installed at BPA; configuration and customization; web design; metadata and web map services loaded for pilot portal release



# What it will take for the Portal to Succeed

- Metadata and data products developed and posted to (or harvested by) the Portal as a normal part of work
- Development of Operational and Business rules
- A Portal Administrator and Data Steward
- Assistance for those agencies or entities that cannot yet post their own data
- Executive support for the common use of basic standards and protocols for data quality and metadata



## Conclusion

- Technology evolution, not revolution
- The Portal allows anyone on the Internet to discover and share data on fish, wildlife, and water
- Opportunity to leverage and integrate with both national and state efforts
- Adaptive management approach to information system development in support of NED goals
- We ask for your suggestions and support

